

UM3100 SERIES

50~100 Watt DC-DC Converters

- ◆ 2:1 Input Range
- ◆ Efficiency to 85%
- ◆ 500 KHz Switching Frequency
- ◆ Short Circuit Protection
- ◆ Remote on/off Control
- ◆ Internal Soft Start
- ◆ 50W to 100W Isolation Output
- ◆ High-Density
- ◆ Under Voltage Lockout
- ◆ Design to Meet EN60950



SPECIFICATIONS

All specifications are typical at nominal line, full load and 25°C unless otherwise noted.

INPUT SPECIFICATIONS

Input Voltage Range, 24V	18-36V
48V	36-75V
Input Filter	Pi Network
Input Reverse Voltage Protection ¹	Internal Shunt Diode Use External Fuse

OUTPUT SPECIFICATIONS

Voltage Accuracy	±1% max.
External Trim Adj. Range ⁹	±10% ±5%
Transient Response ² , ±1% Error Band	<500u sec.
Ripple, 20MHz BW ³	
Vout: 2.5V, 3.3V 5V	100mV p-p max. 40mV rms max.
Vout: 12V	120mV p-p max. 40mV rms max.
Over-Voltage Protection	Clamp Type
Short Circuit Protection	Continuous
Line Regulation ⁴	±0.2% max.
Load Regulation ⁵	±0.5% max.

GENERAL SPECIFICATIONS

Efficiency	See Table
Isolation Voltage	1500Vdc
Isolation Resistance	10 ⁸ Ohms min.
Switching Frequency	500KHz typ.
Baseplate Operating Temperature Range	
None Derating	-25°C to +85°C
Derating	Linearly to Half Power at 100°C
Cooling	Free Air Convection
Storage Temperature Range	-40°C to +105°C
Thermal Protection	115°C typ.
Dimensions	2.4*2.28*0.5 inches (61.0*57.9*12.7 mm)



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NOTE

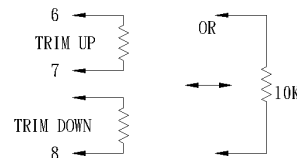
1. Determine the correct fuse size by calculating the maximum DC current drain at low line input, maximum load and then adding 20% to 25% to get the desired fuse size.
2. di/dt= 0.1A/1uS, Vin= Nominal Line, Tc=25°C; load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3. Measured with 10uF Low ESR tantalum capacitor and 0.1uF & 1uF ceramic capacitor across output.
4. Measured from high line to low line.
5. Measured from full load to 1/4 load.
6. Maximum capacitive load across the output ports should not over following indicated values.
7. This converter required a minimum 10% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specification.
8. Standard product is active low, active high remote on/off option is available, to order suffix a "H" to the model number e.g. UM3111H.
9. External trim adj. range ±10% for UM3118 only.

STANDARD REMOTE ON/OFF CONTROL

Logic Compatibility	CMOS or Open Collector TTL
Ec-ON	< 0.8 VDC
Ec-OFF	> +2.5 VDC or Open Circuit
Control Common	Referenced to Input Minus

EXTERNAL OUTPUT TRIMMING

Output may optionally be externally trimmed with a fixed resistor or an external trimpot as shown.

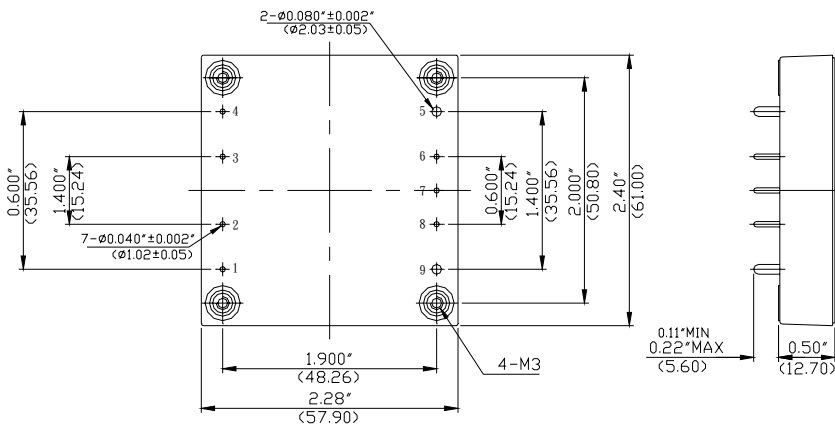


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MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	% EFF
UM3101	24 VDC	5 VDC	20 A	80
UM3108	24 VDC	2.5 VDC	20 A	73
UM3109	24 VDC	3.3 VDC	20 A	75
UM3111	48 VDC	5 VDC	20 A	82
UM3112	48 VDC	12 VDC	8.33 A	85
UM3118	48 VDC	2.5 VDC	20 A	74
UM3119	48 VDC	3.3 VDC	20 A	76

NOTE: Other output voltage can be supported upon request.

MODEL NUMBER	UM3101 UM3111	UM3112	UM3108 UM3118	UM3109 UM3119
MAXIMUM ⁶ CAPACITIVE LOAD (uF)	2200	1000	2200	2200



All dimensions in inches(mm)
Tolerance .xx =±0.04
.xxx =±0.010

Pin Connections*	
Pin	Function
1	+Vin
2	On/Off
3	CASE
4	-Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout

NOTE:

* : If remote sensing not utilized, output sense pin must be jumpered to respective output power pins, for normal operation connect Pin NO.5 to Pin NO.6 and Pin NO.8 to Pin NO.9.



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